Notice of Allowability	Application No.	Applicant(s)	
	10/018,518	ZHOU ET AL.	
	Examiner	Art Unit	
	Cindy Nguyen	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to *10/10/06*.

2. ☒ The allowed claim(s) is/are *1-36*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☒ Some* c) ☐ None of the:
      1: ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

This is response to amendment filed 10/10/06.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Vincent Wen Jeng Lue on 11/06/06.

Claims 19, 22, 27, 35 and 36 have been amended. No new claims are added. Claim 23 is canceled.

Status of claims 1-22, 24-36 as following:

1. (Previously Presented) A method comprising:

receiving a search term for a query;

searching a network of concept terms for terms related to the search term,

wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms, wherein each related term and the search term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms;

reformulating the query using the search term and the related terms before performing a search for documents based on the search term;

searching a local database for data terms that match the search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a document residing on the websites; and

in response to matching data terms with the search terms and related terms corresponding to the data terms, retrieving the documents from the respective websites.

2. (Previously Presented) The method of claim 1, further comprising displaying the retrieved documents, the search terms and the related terms, wherein at least one of the related terms includes a link, when activated, a further search of concept terms is conducted and one or more further related terms are presented, and wherein searching the local database and retrieving the documents are literately performed based on the further related terms.

3. (Original) The method of claim 1, further comprising generating a summary of the documents for the searched terms that match the search term and the related terms.

4. (Original) The method of claim 3, wherein the summary includes the searched terms and a beginning portion of the documents.

5. (Original) The method of claim 1, wherein the network is the Internet.

6. (Original) The method of claim 1, wherein the network of concept terms includes links between related terms, wherein the links are based on semantic relationships.

7. (Original) The method of claim 1, wherein the semantic relationships are selected from a group consisting of canonical, synonym, hyponym, hypernym, part, product and member.

8. (Original) The method of claim 1, wherein related terms are more specific than the search term.

9. (Previously Presented) The method of claim 1, wherein the occurrence frequencies include mutuality between words within the documents.

10. (Previously Presented) A method comprising:

recursively performing the following process until desired documents are found:

receiving a search term for a query;

searching a network of concept terms for terms related to the initial search term, wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms wherein each related term and the search term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms;

reformulating the query using the initial search term and the related terms before performing a search for documents based on the search term;

searching a local database for data terms that match the initial search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a document residing on the websites connected to;

displaying results of the searching of the local database; and

displaying the search term and the related terms.

11. (Original) The method of claim 10, wherein receiving the search term for the query includes receiving the search term for the query based on the displaying of the search term and the related items in a prior process.

12. (Original) The method of claim 10, wherein the new search term is a related term from a prior search of the network of concept terms.

13. (Original) The method of claim 10, wherein reformulating the new query includes combining the new search term and the new related terms together using search operators.

14. (Previously Presented) The method of claim 13, wherein the search operators are selected from the group consisting of AND, OR, NOT and NEAR, wherein the NEAR

operator is satisfied when the new search term and at least one of the new related terms occur within a predetermined number of words within a sentence of a document.

15. (Previously Presented) A method comprising:

receiving an initial search term for a query;

searching a network of concept terms for terms related to the initial search term, wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms, wherein each related term and the search term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms;

reformulating the query using the initial search term and the related terms before performing a search for documents based on the search term;

searching a local database for data terms that match the initial search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a document;

displaying results of the searching of the local database;

displaying the search term and the related terms;

recursively performing the following until desired documents are found:

receiving a new search term for a new query based on the display of the results, the search term and the related terms;

searching the network of concept terms for new terms related to the new search term;

reformulating the new query using the new search term and the new related terms;

searching the local database for data terms that match the new search term and the new related terms, wherein the data terms are from documents residing on the websites;

displaying results of the searching of the local database; and

displaying the new search term and the new related terms.

16. (Original) The method of claim 15, wherein the new search term is a related term from a prior search of the network of concept terms.

17. (Original) The method of claim 15, wherein reformulating the new query includes combining the new search term and the new related terms together using search operators.

18. (Previously Presented) The method of claim 17, wherein the search operators are selected from the group consisting of AND, OR, NOT and NEAR, wherein the NEAR operator is satisfied when the new search term and at least one of the new related terms occur within a predetermined number of words within a sentence of a document.

19. (Currently Amended) An apparatus comprising:

a database that includes data terms, wherein the data terms are generated from documents residing on websites located on servers across a network;

a concept network that includes search terms and related terms that are linked together based on semantic relationships, the search terms and the related terms to locate portions of the documents based on a match between the searchable terms and the related terms and the data terms stored in the database, wherein the concept network is associated with a subject matter domain having a plurality of predetermined relevant terms, wherein each pair of linked search term and related term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms; and

a display device to display the documents, the search terms and the related terms.

20. (Original) The apparatus of claim 19, wherein the semantic relationships are selected from a group consisting of canonical, synonym, hyponym, hypernym, part, product and member.

21. (Original) The apparatus of claim 19, wherein the related terms are more specific than the search terms.

22. (Currently Amended) A machine-readable storage medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising:

receiving a search term for a query;

searching a network of concept terms for terms related to the search term, wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms, wherein each related term and the search term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms;

reformulating the query using the search term and the related terms before performing a search for documents based on the search term;

searching a local database for data terms that match the search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a document residing on the websites connected to; ~~and~~

in response to matching data terms with the search terms and related terms corresponding to the data terms, retrieving the documents from the respective websites; and

displaying the retrieved documents, the search terms and the related terms.

23. (Canceled)

24. (Original) The machine-readable medium of claim 22, further comprising generating a summary of the documents for the searched terms that match the search term and the related terms.

25. (Original) The machine-readable medium of claim 22, wherein the network of concept terms includes links between related terms, wherein the links are based on semantic relationships.

26. (Original) The machine-readable medium of claim 22, wherein the semantic relationships are selected from a group consisting of canonical, synonym, hyponym, hypernym, part, product and member.

27. (Currently Amended) A machine-readable storage medium that provides instructions, which when executed by a machine, causes said machine to perform operations comprising:

recursively performing the following process until desired documents are found:

receiving a search term for a query;

searching a network of concept terms for terms related to the initial search term, wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms wherein each related term and the search term appear together in at least one sentence in a web page residing on

websites located on servers connected to, and wherein the web page includes at least one of the relevant terms;

reformulating the query using the initial search term and the related terms without performing a search for documents based on the search term;

searching a local database for data terms that match the initial search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a documents residing on the websites connected to;

displaying results of the searching of the local database; and

displaying the search term and the related terms.

28. (Original) The machine-readable medium of claim 27, wherein receiving the search term for the query includes receiving the search term for the query based on the displaying of the search term and the related items in a prior process.

29. (Original) The machine-readable medium of claim 27, wherein the new search term is a related term from a prior search of the network of concept terms.

30. (Original) The machine-readable medium of claim 27, wherein reformulating the new query includes combining the new search term and the new related terms together using search operators.

31. (Previously Presented) The method of claim 1, wherein the related terms are different than the search term and have similar meaning of the search term.

32. (Previously Presented) The method of claim 1, wherein the search term includes a name of an organization, and wherein the related terms include at least one of a name of subsidiaries of the organization, a product name of the organization, and a stock symbol of the organization.

33. (Previously Presented) The method of claim 1, wherein the occurrence frequencies include mutual information associated with a first term and a second term within a given web page using a predetermined algorithm.

34. (Previously Presented) The method of claim 33, wherein the mutual information is determined based on one or more weight factors of the first and second terms, the one or more weight factors representing occurrence frequencies of the respective term.

35. (Previously Presented) A method comprising:

receiving a search term for a query;

searching a network of concept terms for terms related to the search term, wherein each related term and the search term appear together in at least one sentence in a web page;

reformulating the query using the search term and the related terms before performing a search for documents based on the search term;

searching a local database for data terms that match the search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a document residing on web sites located on server connected to, wherein the occurrence frequencies include mutual information associated with a first term and a second term within a given web page using a predetermined algorithm, wherein the mutual information is determined based on one or more weight factors of the first and second terms, the one or more weight factors representing occurrence frequencies of the respective term, and wherein the mutual information (MI) of the first term x and the second term y is determined by $MI(x, y) = f(x,y) / f(x) + f(y) – f(x, y)$, wherein f(x, y) corresponds to an occurrence frequency of both the first term and the second term, wherein f(x) corresponds to an occurrence frequency of the first term, and wherein f(y) corresponds to an occurrence frequency of the second term; ~~and~~

in response to matching data terms with the search terms and related terms corresponding to the data terms, retrieving the documents from the respective websites; and

displaying the retrieved documents, the search terms and the related terms.

36. (Previously Presented) A machine-readable storage medium having instructions, when executed by a machine, causes the machine to perform a method, the method comprising:

receiving a search term for a query;

searching a network of concept terms for terms related to the search term, wherein each related term and the search term appear together in at least one sentence in a web page;

reformulating the query using the search term and the related terms before performing a search for documents based on the search term;

searching a local database for data terms that match the search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a document residing on web sites located on server connected to, wherein the occurrence frequencies include mutual information associated with a first term and a second term within a given web page using a predetermined algorithm, wherein the mutual information is determined based on one or more weight factors of the first and second terms, the one or more weight factors representing occurrence frequencies of the respective term, and wherein the mutual information (MI) of the first term x and the second term y is determined by $MI(x, y) = f(x,y) / f(x) + f(y) - f(x, y)$, wherein f(x, y) corresponds to an occurrence frequency of both the first term and the second term, wherein f(x) corresponds to an occurrence frequency of the first term, and wherein f(y) corresponds to an occurrence frequency of the second term; ~~and~~

in response to matching data terms with the search terms and related terms corresponding to the data terms, retrieving the documents from the respective websites; and

displaying the retrieved documents, the search terms and the related terms.

Allowable Subject Matter

Claims 1-36 are allowed in light of the applicant arguments and in light of the prior art made of record.

The following is an examiner's statement of reasons for allowance: the prior art of record failed to disclose: make obvious, or otherwise suggest a method and a machine-readable medium that provides instructions comprising:

searching a network of concept terms for terms related to the search term, wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms, wherein each related term and the search term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms as recited in claims 1, 10, 15, 22, 27.

The prior art of record failed to disclose: make obvious, or otherwise suggest a method and a machine-readable medium that provides instructions comprising:

searching a network of concept terms for terms related to the search term, wherein the network of concept terms is associated with a subject matter domain having a plurality of predetermined relevant terms, wherein each related term and the search term appear together in at least one sentence in a web page residing on websites located on servers connected to, and wherein the web page includes at least one of the relevant terms as recited in claims 19.

The prior art of record failed to disclose: make obvious, or otherwise suggest a method and a machine readable storage medium having instructions, when executed by a machine, cause the machine to perform a method, comprising searching a local database for data terms that match the search term and the related terms, wherein the data terms are generated based on accurrence frequencies withing a document residing on web sites located on server connected to wherein the occurrence frequencides include mutual information associated with a first term and a second term within a given web page using a predetermined algorithm, wherein the mutual information is determined based on one or more weight factor of the first and second terms, the one or more weight factors representing accurrence frequencies of the respective term and wherein the mutual information (MI) of the first term x and the second terms y is determined by M1(x, y) = f(x,y) / f(x) + f(y) – f(x, y), wherein f(x, y) corresponds to an occurrence frequency of both search term and the related terms, wherein f(x) corresponds to an occurrence frequency of both the first term and the second term, wherein f(y)corresponds to an occurrence frequency of the second terms.as recited in claims 35 and 36.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gaffin Jeffrey can be reached on 571-272-4146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cindy Nguyen
November 7, 2006

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